

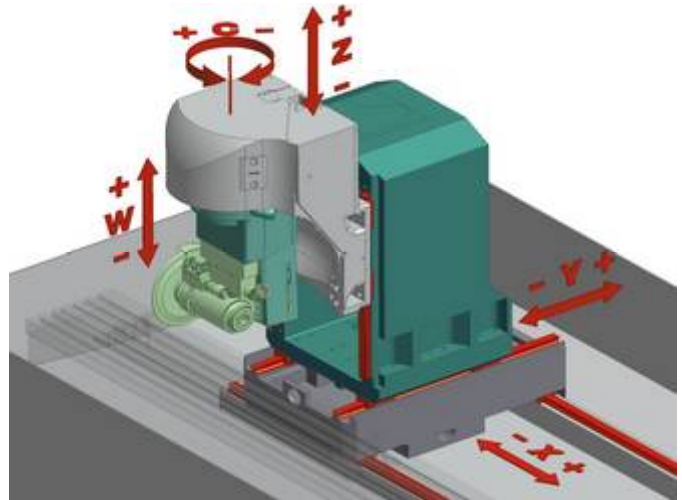
Car Body Stamping Knife Grinding

A27-600

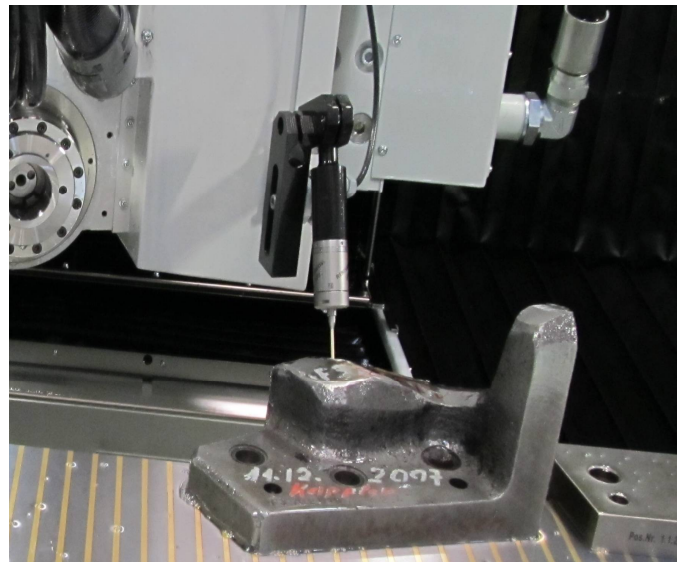
The grinding machine is a SCHNEEBERGER **CORVUS bpp**. The quick oscillating axis (W) is important for this process. In this application the machine is equipped with a magnetic plate to fix the stamping knives. The CORVUS bpp is also equipped with a dressing unit.






The grinding cycle itself always starts outside the workpiece. After each pendulum motion of the W-axis the machine steps in the direction given by the computed tool shape.



The cutting line of car body stamping knives can have a free 3D form. The knives do not have defined position on the magnetic plate. Therefore the position always have to be taught raw manually. Each form-direction can be taught by 3 interpolation points. For the automatic probing process, the number of probe positions between can be set in the software, typically from 0.1 to 3mm. Based on the automatic probing results the software QUINTO 5 automatically computes the tool shape.



1. Grinding time calculation

Workpiece:			
Dimension: Free form, grinding length 150mm			
Material: HSS			
Operations			
	Probe teach	Probe auto	Prf fin
Feed [mm/Min]	—	2000	15000
Power [kW]	—	—	4
Cutting feed [m/s]	—	—	48
Used wheels	—	—	1
Grinding time [s]	180	450	600
Total cycle time	20 Min 30 s		

The cycle times are indicative. Material to be ground, grinding wheels, coolants can influence the cycle times considerably.

2. Used Grinding Wheel

1	CBN* 14F1 Ø300mm R4mm
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* ceramic bonded



3. Machine and Software Requirements

Machines:	6 axes CNC grinders : CORVUS bpp
Control:	Fanuc 310i
Accessories:	Dressing unit, magnetic plate 1200 x 200mm
Coolant:	Synthetic Oil, pressure 6 bar
Software:	Quinto 5

Responsible engineer: STR / 09.11.2011

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